AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1.   (Currently Amended) An apparatus for conducting an ergonomic analysis of a physical activity performed by a user, comprising:

a first database comprising a plurality of job functions performed by a human operator at a workstation, each of said job functions comprising at least one movement of a specific part of said user's body during performance of said job function;

a first computer that generates a time-based event, said time-based event corresponding to an observable current at said workstation;

a second computer that:

receives said time-based event;

determines a job function associated with said time-based event;

retrieves said job function from said first database;

determines a level of physiological exertion necessary to perform said time-based event; and

creates a graphical representation to reflect the performance of said time-based event; and

a data communication link coupling said first and second computers, wherein said data communication link automatically establishes a communication protocol between said first and second computers thereby permitting different versions of said first and second computers to be seamlessly appended without modification.

2.   (Currently Amended) The apparatus of claim 1 wherein said step of determining a level of physiological exertion is further ~~comprised of~~ <u>comprises</u> the step of determining a level of physiological exertion for at least one anthropometric parameter.

3.   (Original) The apparatus of claim 2 wherein said anthropometric parameters correspond to physiological measurements for people in the 5th -95th percentile of a target population.

4.   (Currently Amended) A method for performing an ergonomic analysis of a physical activity performed by a user, comprising:

capturing a user's initial body position;

measuring at least one change in said user's initial body position as the user performs a physical activity;

determining a level of physiological exertion necessary to perform said at least one change;

displaying a graphical representation of said at least one change, said graphical representation comprising an electronic image of said user at a workstation;

<u>simulating performance of said physical activity over time;</u> and

<u>using the simulated performance to calculate the</u> ~~recording said change and its~~ associated physiological exertion level as a function of time to create an ergonomic analysis of the physical activity.

5. (Currently Amended) The method of claim 4 wherein said step of determining a level of physiological exertion further comprises the ~~steps~~ step of determining a level of physiological exertion for at least one of a plurality of anthropometric parameters.

6. (Original) The method of claim 5 wherein said anthropometric parameters correspond to physiological measurements for people in the 5th-9th percentile of a target population.

7. (Original) The method of claim 4 wherein the step of determining a level of physiological exertion comprises the step of determining at least one of strength and posture, energy expenditure/metabolic rate (GARG), NIOSH lifting index, back compressive forces and the frequency of selected tasks.

8. (Original) The method of claim 4 wherein the step of determining a level of physiological exertion comprises the step of determining whether an event is incompatible with desired performance by a human subject to perform.

9. (Original) The method of claim 4 wherein the step of displaying a graphical representation includes graphically displaying changes in at least one of a user's posture/balance, back compression design limits, back compression upper limits, NIOSH lifting index, metabolic/energy expenditure with work/rest recommendations, fields of vision/interferences, and obstruction/reach envelopes on a display monitor.

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10. (Currently Amended) An apparatus for ergonomic analysis of a physical activity performed by a user during performance of a series of tasks using discrete event simulation, comprising:

means for capturing a user's initial body position;

means for measuring at least one change in said user's initial body position as the user performs a physical activity;

means for determining a level of physiological exertion necessary to perform said at least one change;

means for displaying a graphical representation of said at least one change, said graphical representation comprising an electronic image of said user at a workstation;

means for simulating performance of said physical activity over time; and

means for using the simulated performance to calculate the recording said change and its associated physiological exertion level as a function of time to create an ergonomic analysis of the physical activity.

11. (Currently Amended) A computer program product having computer readable instructions for performing an ergonomic analysis of a physical activity performed by a user, the computer program product comprising:

a module configured to capture a user's initial body position;

a module configured to measure at least one change in said user's initial body position as the user performs a physical activity;

a module configured to determine a level of physiological exertion necessary to perform said at least one change;

a module configured to display a graphical representation of said at least one change, said graphical representation comprising an electronic image of said user at a workstation;

a module configured to simulate performance of said physical activity over time; and

a module configured to use the simulated performance to calculate the record said change and its associated physiological exertion level as a function of time to create an ergonomic analysis of the physical activity.

12. (Original) The computer program product of claim 11, wherein the module configured to determine a level of physiological exertion includes a module configured to determine at least one of strength and posture, energy expenditure/metabolic rate (GARG), NIOSH lifting index, back compressive forces, and the frequency of selected tasks.

13. (Original) The computer program product of claim 11, wherein the module configured to determine a level of physiological exertion includes a module configured to determine whether an event is incompatible with desired performance by a human subject to perform.

14.   (Original) The computer program product of claim 11, wherein the module configured to construct a graphical representation of the image exertion includes a module configured to graph at least one of a user's posture/balance, back compression design limits, back compression upper limits, NIOSH lifting index, metabolic/energy expenditure with work/rest recommendations, fields of vision/interferences, and obstruction/reach envelopes.

15.   (Currently Amended) An apparatus for conducting an ergonomic analysis of a physical activity performed by a user, comprising:

a first computer that captures movements performed by a human operator at a workstation and creates a database of ~~time-based events~~ job functions from said movements;

a second computer that generates a time-based event, said time-based event corresponding to an observable occurrence at said workstation;

a third computer that:

receives said time-based event;

determines a job function associated with said time-based event;

retrieves said job function from said ~~first~~ database;

determines a level of physiological exertion necessary to perform said time-based event; and

creates a graphical representation to reflect the performance of said time-based event; and

a data communication link coupling said first, second and third computers,

wherein said data communication link automatically establishes a communication

protocol between said first, second and third computers thereby permitting different

versions of said first, second and third computers to be seamlessly appended without

modification.

16.   (Currently Amended) The apparatus of claim 15 wherein said step of

determining a level of physiological exertion further comprises the ~~steps~~ step of

determining a level of physiological exertion for at least one of a plurality of

anthropometric parameters.

17.   (Original) The apparatus of claim 16 wherein said anthropometric

parameters correspond to physiological measurements for people in the 5th-95th

percentile of a target population.